

CLAIMS

1. A process for producing a plasma display panel (PDP) including a process for forming a metal oxide film onto a substrate of the PDP, the method comprising:

5 forming the metal oxide film within a certain range in partial pressure of a certain gas in a deposition room.

2. A process for producing a plasma display panel (PDP) including a process for forming a metal oxide film onto a substrate of the PDP, the method
10 comprising:

 keeping partial pressure of a certain gas in a deposition room within a certain range, and keeping a vacuum degree in the deposition room within a certain range in depositing the metal oxide film.

15 3. The process for producing the PDP of claim 1 or 2,
 wherein the certain gas in the deposition room is oxygen gas.

4. The process for producing the PDP of claim 3,
 wherein the partial pressure of the oxygen gas is kept within a certain
20 range by introducing the oxygen gas while the deposition room is exhausted.

5. The process for producing the PDP of claim 4,
 wherein the partial pressure of the oxygen gas ranges within 1×10^{-3} Pa
to 5×10^{-2} Pa.

25 6. The process for producing the PDP of claim 1 or 2,
 wherein the certain gas in the deposition room is at least one gas

selected from the group consisting of water, hydrogen, carbon monoxide and carbon dioxide.

7. The process for producing the PDP of claim 6,

5 wherein the partial pressure of at least one gas selected from the group consisting of water, hydrogen, carbon monoxide and carbon dioxide is kept within a certain range by introducing at least the gas selected from the group consisting of water, hydrogen, carbon monoxide and carbon dioxide while the deposition room is exhausted.

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8. The process for producing the PDP of claim 7,

 wherein the partial pressure of the water ranges within 1×10^{-4} Pa to 5×10^{-3} Pa.

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9. The process for producing the PDP of claim 7,

 wherein the partial pressure of the hydrogen gas ranges within 1×10^{-3} Pa to 5×10^{-2} Pa.

10. The process for producing the PDP of claim 7,

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 wherein the partial pressure of the carbon monoxide gas ranges within 1×10^{-3} Pa to 5×10^{-2} Pa.

11. The process for producing the PDP of claim 7,

 wherein the partial pressure of the carbon dioxide gas ranges within
25 1×10^{-4} Pa to 5×10^{-3} Pa.

12. The process for producing the PDP of claim 2,

wherein the vacuum degree is kept within a certain range by introducing an inert gas while the deposition room is exhausted.

13. An apparatus of manufacturing a plasma display panel (PDP) for forming a metal oxide film onto a substrate of the PDP, the apparatus comprising:

- a deposition room;
- a gas-introducing means for introducing gas into the deposition room;
- an exhausting means for exhausting the deposition room;
- 10 a partial-pressure-detecting means for detecting partial pressure of the gas in the deposition room; and
- a controlling means for controlling an amount of introducing gas from the gas-introducing means and an amount of exhausting gas by the exhausting means based on information of the partial pressure of the gas from the
- 15 partial-pressure-detecting means in such a manner that the partial pressure of the gas in the deposition room becomes within a certain range.

14. An apparatus of manufacturing a plasma display panel (PDP) for forming a metal oxide film onto a substrate of the PDP, the apparatus comprising:

- a deposition room;
- a gas-introducing means for introducing gas into the deposition room;
- an exhausting means for exhausting the deposition room;
- a partial-pressure-detecting means for detecting partial pressure of the
- 25 gas in the deposition room;
- a vacuum-degree-detecting means for detecting a vacuum degree in the deposition room; and

a controlling means for controlling an amount of introducing gas from the gas-introducing means and an amount of exhausting gas by the exhausting means based on information of the partial pressure of the gas from the partial-pressure-detecting means and information of the vacuum degree from the vacuum-degree-detecting means in such a manner that the partial pressure of the gas and the vacuum degree in the deposition room become within certain ranges.

15. The apparatus of manufacturing a PDP of claim 13 or 14,
10 wherein the partial-pressure-detecting means detects the partial pressure of oxygen gas.

16. The apparatus of manufacturing a PDP of claim 13 or 14,
 wherein the partial-pressure-detecting means detects the partial
15 pressure of at least one gas selected from the group consisting of water, hydrogen, carbon monoxide and carbon dioxide.